



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

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Secretary

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Commissioner

CERTIFICATION FOR GENERAL USE

Pursuant to Title 5, 310 CMR 15.000

Name and Address of Applicant:

Shane Blackford
Advanced Drainage Systems, Inc.
4640 Trueman Blvd
Hilliard, OH 43026

Trade name of technology and model: **GEO-flow® Pipe Leaching System** (hereinafter called the "System"). The applicant's "GEO-flow® Pipe Leaching System Design, Installation and Operating Manual" dated July 2008 with included schematic drawings of the System and typical System installations, a technology inspection checklist and a System Installation Form are part of this Certification.

Transmittal Number: W080364
Date of Issuance: July 7, 2008
Date of Expiration: July 7, 2013

Authority for Issuance

Pursuant to Title 5 of the State Environmental Code 310 CMR 15.000, the Department of Environmental Protection hereby issues this Certification to: Advanced Drainage Systems, Inc., 4640 Trueman Blvd, Hilliard, OH 43026 (hereinafter "the Company"), approving the System described herein for General Use in the Commonwealth of Massachusetts. Sale and use of the System are conditioned on compliance by the Company and the System owner with the terms and conditions set forth below. Any noncompliance with the terms or conditions of this Certification constitutes a violation of 310 CMR 15.000.

A handwritten signature in black ink, appearing to read "Glenn Haas".

Glenn Haas, Acting Assistant Commissioner
Bureau of Resource Protection

July 7, 2008
Date



I. Purpose

1. This Certification for General Use authorizes, with the necessary permits and approvals required by 310 CMR 15.000, the use and installation of the System in Massachusetts.
2. The System may be installed on all facilities where a system in compliance with 310 CMR 15.000 exists on site or could be built and for which a site evaluation in compliance with 310 CMR 15.000 has been approved by the local approving authority, or by DEP if DEP approval is required by 310 CMR 15.000. **This Certification does not allow the use of the System on facilities for nitrogen reduction in a Department designated nitrogen sensitive or limited area as defined in 310 CMR 15.214 and 15.215. This Certification does not allow the use of the System with any reduction to estimated high groundwater or any reduction in naturally occurring pervious material.**
3. The System is approved for use at facilities with a maximum design flow less than 10,000 gallons per day (GPD).

II. Design and Construction Standards

1. The System is a subsurface unit that replaces a soil absorption system (SAS) designed in accordance with 310 CMR 15.000. The System consists of a 10-inch diameter corrugated high-density polyethylene pipe perforated with eight 7/16th inch diameter holes equally distributed around its circumference at each corrugation and manufactured in 10 foot lengths. The exterior of the pipe has two layers of material, a 20 oz/yd² geo-grid polypropylene grid inner layer and an outer layer wrapping of 4 ounce/yd² polyethylene non-woven geotextile fabric. The System also includes a minimum six inches of sand (concrete sand-ASTM C-33) surrounding exterior of GEO-flow pipe. Depth to the estimated seasonal high groundwater elevation shall be measured from the bottom of the System sand below the GEO-flow pipe.
2. The System sand shall meet ASTM C-33 specifications.
3. Systems shall be installed with differential venting for aeration and inspection at the end of each run of pipe, section or serial bed and whenever the System is installed under impervious surfaces.
4. The System shall be designed and installed using distribution boxes for inspection ports. The pipe between the distribution box and the System shall be installed at a minimum slope of 0.02 feet/foot.
5. Serial distribution laterals shall be limited to no more than 500 gpd. Multi-level systems shall not be allowed.
6. The System shall be installed in a bed or field configuration, as defined in 310 CMR 15.252. The effective leaching area shall be the bottom area (length times width) of the field or bed as presented in the Company's "GEO-flow® Pipe Leaching System Design, Installation and Operating Manual".

7. Effluent loading rates adjusted to reduce the soil absorption system by 40 percent shall be in accordance with 310 CMR 15.242. No System shall be installed with a leaching area of less than 400 square feet.
8. Systems with design flows of 2000 gpd or greater shall not require pressure distribution in accordance with 310 CMR 15.231.
9. System component material specifications for the pipe, grid and fabric shall comply with the specifications identified in the application. Prior approval from the Department for any change from these specifications shall be requested in writing.

III. General Conditions

1. All provisions of 310 CMR 15.000 are applicable to the use of this System, the System owner and the Company, except those that are varied by the terms of this Approval.
2. All sample analysis must be conducted by an independent U.S. EPA or DEP approved testing laboratory, or a DEP approved independent university laboratory. It is a violation of this Approval to falsify any data collected, to omit any required data or to fail to submit any report required by such plan.
3. The facility served by the System and the System itself shall be open to inspection and sampling by the Department and the local approving authority at all reasonable times.
4. In accordance with applicable law, the Department and the local approving authority may require the System owner to cease operation of the system and/or to take any other action as it deems necessary to protect public health, safety, welfare and the environment.
5. The Department has not determined that the performance of the System will provide a level of protection to public health and safety and the environment that is at least equivalent to that of a sewer system. No System shall be installed, upgraded or expanded, if it is feasible to connect the facility to a sanitary sewer, unless as allowed by 310 CMR 15.004. When a sanitary sewer connection becomes feasible, the facility served by the System shall be connected to the sewer, within 60 days of such feasibility, and the System shall be abandoned in compliance with 310 CMR 15.354, unless a later time is allowed, in writing, by the approving authority.
6. Design, installation and operation shall be in strict conformance with the Company's DEP approved plans and specifications, 310 CMR 15.000 and this Approval.

IV. Conditions Applicable to the System Owner

1. The System is approved for the treatment and disposal of sanitary sewage only. Any wastes that are non-sanitary sewage generated or used at the facility served by the System shall not be introduced into the System and shall be lawfully disposed.

2. For new construction, the System owner initially shall size a soil absorption system in accordance with 310 CMR 15.242 to demonstrate that a conventional Title 5 soil adsorption system using aggregate, including a reserve area, can be installed on the site. The System owner may then size the soil absorption system for the System. The total area required for the aggregate system, which may include the area designated for the System, and a reserve area shall be preserved and the owner shall ensure that no permanent structures or other structures are constructed on that area and that the area is not disturbed in any manner that will render it unusable for future installation of a conventional Title 5 soil absorption system
3. The System owner shall at all times properly operate and maintain the on-site sewage disposal system.
4. The System owner shall have the System inspected annually by an operator trained by the Company and shall submit the results of that inspection, on a technology checklist, to the local approving authority.
5. The System owner shall furnish the Department any information that the Department requests regarding the operation and performance of the System, within 21 days of the date of receipt of that request.
6. No System owner shall authorize or allow the installation of the System other than by a person trained by the Company to install the System.

V. Conditions Applicable to the Company

1. By January 31st of each year, the Company shall submit a report to the Department, signed by a corporate officer, general partner or Company owner that contains information on the System, for the previous calendar year. The report shall state: the number of units of the System sold for use in Massachusetts including the installation date and date of start-up during the previous year; the address of each installed System, the owner's name and address, the type of use (e.g. residential, commercial, school, institutional) and the design flow; and for all Systems installed since the date of issuance of this Approval, all known failures, malfunctions, and corrective actions taken and the address of each such event. Electronic file submittal of annual reports, in spreadsheet format, is encouraged and can be sent to the Department at Dep.Waterpermitting@state.ma.us. The emailed file should identify and include in the subject line the technology name, approval category and reporting year. Also, the Company must maintain copies of all completed inspection forms and certified laboratory results for possible audit for at least three years.
2. The Company shall notify the Director of the Wastewater Management Program at least 30 days in advance of the proposed transfer of ownership of the technology for which this Approval issued. Said notification shall include the name and address of the proposed new owner and a written agreement between the existing and proposed new owner containing a specific date for transfer of ownership, responsibility, coverage and liability between them. All provisions of this Approval applicable to the Company shall be applicable to successors and assigns of the Company, unless the Department determines otherwise.

3. The Company shall maintain a System design, installation and operating manual, including information on substances that should not be discharged to the System and a recommended schedule for maintenance of the System essential to consistent successful performance of the installed Systems. Revisions to the manual shall be requested in writing to the Department for approval and incorporation onto the Department's web pages.
4. The Company shall make available, in print and electronic format, the referenced procedures in paragraph 3 above to owners, operators, designers and installers of the System.
5. The Company shall institute and maintain a training program in the proper design, installation and inspection techniques of its System and provide a training course at least annually for prospective designers, installers and inspectors. The Company shall certify that installers and inspectors have completed the Company's training class, maintain a list of certified installers and inspectors, submit a copy to the Department, and update the list annually. Updated lists shall be forwarded to the Department.
6. The Company shall furnish the Department any information that the Department requests regarding the System, within 21 days of the receipt of that request.
7. The Company shall include copies of this Approval and the procedures required by Section V (3) with each System that is sold. In any contract executed by the Company for distribution or re-sale of the System, the Company shall require the distributor or re-seller to provide each purchaser of the System with copies of this Approval and the procedures described in Section V (3).
8. The Company shall comply with 310 CMR 15.000 and all Department policies and guidance that apply and as they may be amended from time to time.
9. If the Company wishes to continue this Approval after its expiration date, the Company shall apply for and obtain a renewal of this Approval. The Company shall submit a renewal application at least 180 days before the expiration date of this Approval, unless written permission for a later date has been granted in writing by the Department. This approval shall continue in force until the Department has acted on the renewal application.
10. The application submitted by the Company has demonstrated that the System is effectively equivalent to similar systems approved by the Department. To verify treatment capabilities of the GEO-flow Pipe Leaching System the Company will be installing the System at the Massachusetts On-Site Systems Testing Center in Bourne, Massachusetts during the summer of 2008. At the completion of at a minimum 12 months of testing the Department will review the testing results. In accordance with Section VIII of this approval, and after reviewing the results of the above referenced testing, the Department may modify this approval. This does not diminish or lessen the ability or right of the Department to review System information at any time and to take appropriate action for the protection of public health and safety and the environment.

VI. Conditions Applicable to Installers of the System

1. Each Installer shall install the System in accordance with Company training on the installation of the System and the conditions of this Certification.
2. No Installer shall install the System unless the Installer has been trained by the Company on installation of the System or the installation is overseen by a Company representative(s).
3. Installers shall complete the System Installation Form and forward a copy to the Company and the local approving authority.
4. The System installer shall provide the System owner and the local approving authority with a bill of lading certifying that the System sand meets ASTM C-33 specifications.

VII. Reporting

1. All notices and documents required to be submitted to the Department by this Approval shall be submitted to:

Director
Wastewater Management Program
Department of Environmental Protection
One Winter Street - 5th floor
Boston, Massachusetts 02108

VIII. Rights of the Department

1. The Department may suspend, modify or revoke this Approval for cause, including, but not limited to, non-compliance with the terms of this Approval, non-payment of the annual compliance assurance fee, for obtaining the Approval by misrepresentation or failure to disclose fully all relevant facts or any change in or discovery of conditions that would constitute grounds for discontinuance of the Approval, or as necessary for the protection of public health, safety, welfare or the environment, and as authorized by applicable law. The Department reserves its rights to take any enforcement action authorized by law with respect to this Approval and/or the System against the owner, or operator of the System and/or the Company.

IX. Expiration Date

1. Notwithstanding the expiration date of this Certification, any System installed prior to the expiration date of this Certification, and approved, installed and maintained in compliance with this Certification (as it may be modified) and 310 CMR 15.000, may remain in use unless the Department, the local approving authority, or a court requires the System to be modified or removed, or requires discharges to the System to cease.